

PETROV, K.A.; NIFANT'YEV, S.Ye.; SHCHERBAV, A.A.; TERNOV, M.

Synthesis and alkylation of phosphites and phosphonates of
1,2,3,5-diisopropylidene- α -D-glucose and 1,2,3,5-diisopropylidene- β -D-glucose. Zhur. obshch. khim. 1986, 62, 1114-1116, 11 figs.

WITKOWSKI, L. J.; ...

Synthesis of nucleoside phosphonates and phosphonates. ...
khim. 34 no. 9:3116-3124, 1991.

L 38583-65 EWT(m)/EPF(c)/EWP(j)/EWA(c) Fc-4/Pr-4 RFL JW/RM

ACCESSION NR: AP5011035

UR/0079/64/034/011/3850/3850

AUTHOR: Nifant'yev, E. Ye.

TITLE: Synthesis of new types of nitrogen-containing derivatives of phosphorous acid

SOURCE: Zhurnal obshchey khimii, v. 34, no. 11, 1964, 3850

TOPIC TAGS: organic nitrogen compound, phosphorous acid, organic amide, organic synthetic process

Abstract: In view of the low reactivity of amide derivatives of phosphorous acid as intermediates in the production of sugar phosphites, sugar phosphates, and other phosphorus containing esters of carbohydrates, the author synthesized new types of nucleophilic nitrogen-containing phosphorous acid derivatives. N-methoxyamide of 1,3-butylenephosphorous acid was synthesized by the reaction of 1,3-butylene chlorophosphite (I) with O-methylhydroxylamine; the reaction of (I) and N,N-diethylhydroxylamine produced the O-phosphorylation product of the latter. The chlorophosphite of (I) readily phosphorylates 3,5-dimethylpyrazole and 4-ethyl-5-methyl-delta₂-pyrazoline, producing phosphorylated heterocycles. A hydrazide was synthesized from (I) and nonsymmetrical

Card 1/2

L 38583-65

ACCESSION NR: AP5011035

2
dimethylhydrazine. All the compounds obtained are the first representatives of previously unknown types of derivatives of acids of trivalent phosphorus and are effective phosphorylating agents, especially the hydrazide.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova
(Moscow State University)

SUBMITTED: 03Jul64

ENCL: 00

SUB CODE: OC, IC

NO REF SOV: 000

OTHER: 000

JPRS

Card 2/2

PETROV, K.A.; NIFANT'YEV, E. Ye.; SHEGEGOLEV, A. I.; TUCHEV, A. I.

Synthesis and chemical properties of tetraethyldiaminophosphite
carbohydrates. Zhur. ob. Khim. 34 (1984) 4096-4099 (1984)
(1984)

ACCESSION NR: AP4018072

S/0080/64/037/002/0429/0433

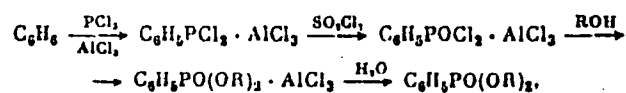
AUTHORS: Petrov, K.A.; Nifant'yev, E.Ye.; Ly*senko, T.N.; Sinogeykina,
L.P.

TITLE: Synthesis of certain derivatives of phenylphosphonic acid

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 2, 1964, 429-433

TOPIC TAGS: phenylphosphonate, synthesis, phosgenation, phenyl-
phosphonic acid ester

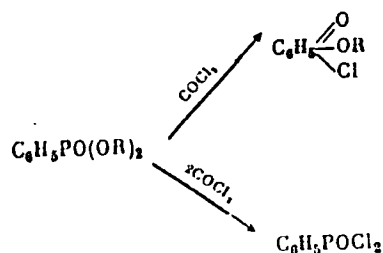
ABSTRACT: The synthesis of phenylphosphonates by the following
procedure:



and the subsequent phosgenation:

Card 1/3

ACCESSION NR: AP4018072



were investigated. The dibutyl, dihexyl, di-2-ethylhexyl and diphenyl esters of phenylphosphonic acid were prepared according to the first equation by reacting a mixture of phenyldichlorophosphine and AlCl_3 with SO_2Cl_2 , removing the excess SO_2Cl_2 , and then reacting with the appropriate alcohol. The monobutyl, hexyl and octyl esters were prepared by reacting in absolute ether the dichloranhydride of phenylphosphonic acid (I) with the appropriate alcohol and pyridine. The butyl and isoamyl esters of diethylamidophenylphosphonic acid were prepared by reacting in absolute ether a mixture of I, the appropriate alcohol and triethylamine, and then diethylamine. Phosgenation of the diethyl ester of phenylphosphonic acid at 40-50C gives the monochloranhydride of the monoethyl ester of phenylphosphonic acid; at 120-130C, I is formed almost quantitatively. Phosgenation

Card 2/3

ACCESSION NR: AP4018072

at the lower temperature of the monohexyl ester gives the monochloranhydride of the monohexyl ester of phenylphosphonic acid. Orig. art. has: 1 table and 3 equations.

ASSOCIATION: None

SUBMITTED: 23Jun62

DATE ACQ: 19Mar64

ENCL: 00

SUB CODE: CH

NR REF SOV: 002

OTHER: 004

Card

3/3

PETROV, K.A.; NIFANT'YEV, E.Ye.; SOPIKOVA, I.I.; LEVITAN, I.P.

Synthesis and some properties of dialkylcyclohexyl phosphates.
Zhur.prikl.khim. 37 no. 5:1132-1135 My '64. (MIRA 17:7)

NIFANT'YEV, E.Ye.; BELOVENTSEV, M.A.; LEVITAN, L.P.

Synthesis and some properties of cellulose acid phosphites.
Vysokom. soed. 7 no.3:513-516 Mr '65. (MIRA 18:7)

PREDVODITELEV, D.A.; NIFANT'YEV, E.Ye.; ROGOVIN, Z.A.

Synthesis of cellulose hypophosphites. Vysokom. soed. " no.5:791-794
Mg '65. (MIRA 18:9)

1. Moskovskiy tekstil'nyy institut.

PREDVODITELEV, D.A.; NIFANT'YEV, E.Ye.; ROGOVIN, Z.A.

Synthesis of cellulose phosphites by the reaction of monomethyl phosphite with cellulose and their subsequent transformations.
Vysokom. soed. 7 no.6:1005-1009 Je '65. (MIRA 18:9)

1. Moskovskiy tekstil'nyy institut.

L 57871-65 EWT(m)/EPF(c)/EPR/EWP(J)/J Pg. 4/Pr. 4/Ps. 4 WW/RM
 ACCESSION NR: AP5016504 UR/0190/65/007/006/1020/1023
 541.64 + 678.675

AUTHOR: Nifant'yev, E. Ye.; Markov, S. M.; Tuseyev, A. P.

TITLE: Synthesis of polyphosphamides containing 2,2'-diaminodiethyl disulfide (cystamine) residues

SOURCE: Vysokomolekulyarnyye soedineniya, v. 7, no. 6, 1965, 1020-1023

TOPIC TAGS: radiation protection, antiradiation drug, polyphosphamide, polymer

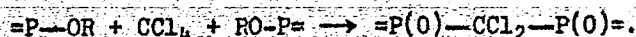
ABSTRACT: Physiologically active synthetic polymers⁷ have recently received increased attention. Among these substances are high-molecular-weight polythiols⁷ which serve to prevent radiation sickness. This paper is devoted to phosphorus-containing polymers incorporating 2,2'-diaminodiethyl disulfide, a well-known antiradiation compound. The aim of this work was to obtain antiradiation compounds with prolonged activity. The preparative reaction was the transamidation of tetraethyl-diamides of trivalent-phosphorus acids with 2,2'-diaminodiethyl disulfide. The amides of methylphosphorous and phenylphosphorous acids and the corresponding phosphorylated derivatives of 1,2-5,6-glucofuranose diisopropylidene ketal and 1,4-3,6-dianhydromannitol were used as the phosphorus-containing component. The reaction proceeds vigorously at 120-130C with an almost quantitative liberation of

Card 1/2

L 57871-65

ACCESSION NR: A75016504

diethylamine. The linear polymers formed in the course of the reaction are viscous oils or vitreous solids; their molecular weight ranges from 5000 to 32,000. They are moderately soluble in dimethylformamide and in chloroform. They are slowly hydrolyzed in water with cleavage of the P-N bond. Treatment with carbon tetrachloride results in cross-linking of the linear polymers, apparently by the Arbuzov reaction:



Cross-linked polymers were also formed in reactions of 2,2'-diaminodiethyl disulfide with di- and tetrafunctional amides. The kinetics of thermooxidative degradation of the cross-linked polymers were investigated; the results are given in tabular form. Orig. art. has: 2 tables. [VS]

ASSOCIATION: none

SUBMITTED: 08Jul64

ENCL: 00

SUB CODE: OC, CB

NO REF SOV: 004

OTHER: 002

ATD PRESS: 4038

Card 2/2

(A) L 8865-66 EMT(m)/ETC/ENG(m)/ENP(j)/T/ETC(m) DS/WW/RM
ACC NR: AP5025953 SOURCE CODE: UR/0190/65/007/010/1667/1669

AUTHOR: Petrov, K. A.; Sopikova, I. I.; Nifant'yev, E. Ye.

ORG: None

TITLE: Phosphorylation of polysaccharides. Phosphorylation of cellulose with alkyl(aryl)phosphinic anhydrides

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 10, 1965, 1667-1669

TOPIC TAGS: phosphorylation, cellulose, cellulose plastic, organic phosphorus compound, phosphinic acid, ion exchange resin, heat resistant material

ABSTRACT: A new method of phosphorylating cellulose with alkyl(aryl) phosphinic anhydrides gave alkyl(aryl)cellulose phosphonates with potential as ion exchange or fire-resistant materials. Cellulose was reacted with methyl- or phenylphosphinic anhydride to form acid methyl(phenyl)cellulose phosphonates heretofore not described in the literature. Products containing a maximum of

UDC: 661.728.87

Card 1/2

L 8865-66

ACC NR: AP5025953

about 10% phosphorus were obtained by reaction at 130-140° using 3-5 moles of anhydride for each alpha-d-glucose chain. The cellulose phosphonates are not distinguishable externally from the initial cellulose; they are incombustible when they contain about 4% or more of phosphorus. Orig. art. has: 1 table and 1 equation.

SUB CODE: OC SUBM DATE: 05Oct64/ ORIG REF: 005/ OTH REF: 001

PC
Card 2/2

NEGATIVE, E. A. 11-11-61

CONVENTION, 1961

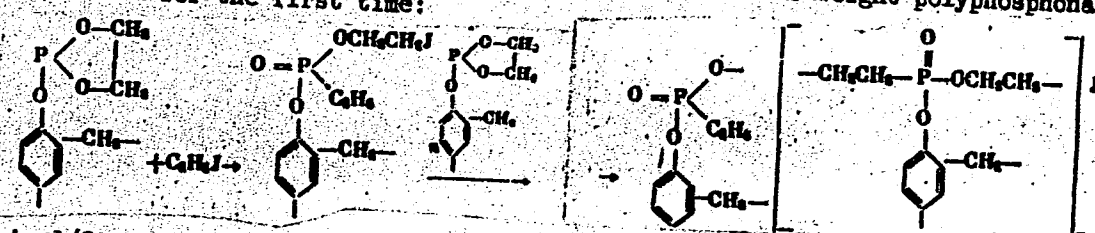
11-11-61

11-11-61

NIFANT'YEV, E.Ye.; FURSINKO, I.V.

Alcoholysis of p-fluoroethyl phosphites and phosphonites.
Zhur. ob. khim. 95 no.10, 1882 O '65. (MIRA 18:10)

L 5101-66 EWT(m)/EPF(a)/T/EWP(j) RM
 ACC NR: AP5027230 SOURCE CODE: UR/0020/65/164/006/1327/1330
 AUTHOR: Nifant'yev, E. Ye.; Fedorov, S. G.
 ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)
 TITLE: Synthetic application of novolak phosphites
 SOURCE: AN SSSR. Doklady, v. 164, no. 6, 1965, 1327-1330
 TOPIC TAGS: novolak, phosphite, ester, polymer, phosphorus containing polymer
 ABSTRACT: Preparation of phosphites of novolaks had been described in previous publications. In this work, novolak phosphites were allowed to react with chloral, sul-furyl chloride, amines, and mercaptans. The general nature of the reactions and products is characterized. True cross-linked, high-molecular-weight polyphosphonates were obtained for the first time:



Card 1/2 UDC: 547.568.5

L 5101-66

ACC NR: AF5027230

Orig. art. has: 3 formulas.

SUB CODE: MT, 64/SUBM DATE: 12Feb65/ ORIG REF: 005/ OTH REF: 002/ ATD PRESS: 4/33

[VS]

Card 2/2 *Med.*

NIFANT'YEV, I.Ye.; KULAKOV, V.N.

Certain reactions of β -ketomercaptals. Zhur. org. khim. 1
no.11:1955-1959 N 165. (SHE 15 11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosov.

DATE: _____

... of cellulose
... anhydride, hydrazine, acid, 7
(M.R. 12:11)

PREDVODITELEV, D.A.; TYUGANOVA, M.A.; NIFANT'YEV, E.Ye.; ROGOVIN, Z.A.

Synthesis of phosphorous cellulose esters by reesterification
of dimethyl phosphite and their subsequent transformations.
Zhur.VKHO 10 no.4:459-461 '65.

(MIRA 18:11)

1. Moskovskiy tekstil'nyy institut.

NIFANT'YEV, E.Ye.; SHCHEGOLEV, A.A.

Synthesis and alkylation of dipropyl phosphinites of
1,2-5,6-dicyclohexylideneglucose, 1,2-isopropylidene- α -dimethyl-
glucose, and 3,4-isopropylidene- β -methylarabinose. Vest. Mosk.
un. Ser. 2:Khim. 20 no.4:80-82 J1-Ag '65.

1. Kafedre khimicheskoy tekhnologii Moskovskogo gosudarstvennogo
universiteta.

NIFANT'YEV, E.Ye.; IVANOVA, N.L.

Synthesis and chemical properties of phosphorous acid biamides.
Vest. Mosk. un. Ser. 2: Khim. 20 no.6:82 H-D '65.

(MIRA 19:1)

1. Kafedra khimicheskoy tekhnologii Moskovskogo universiteta.
Submitted Sept. 20, 1965.

L 39886-66 EWT(m)/EWP(1)/ETC(m)-6/T LJP(c) BM/ET/CD-2
ACC NR: AP6016658 SOURCE CODE: UR/0079/65/035/010/1882/1882

AUTHOR: Nifant'yev, E. Ye.; Fursenko, I. V.

ORG: none

TITLE: Alcoholysis of beta-fluoroethyl phosphites and phosphonites

SOURCE: Zhurnal obshchey khimii, v. 35, no. 10, 1965, 1882

TOPIC TAGS: vacuum distillation, phosphorylation, ester, polyvinyl alcohol, organic phosphorus compound, fluorinated compound, alcohol, fluorohydrin, organic synthetic process

ABSTRACT: It has been shown for the first time that various phosphites and phosphonites can be obtained in high yields by the alcoholysis of beta-fluoroethyl esters of acids of trivalent phosphorus at 20-40°C. The method opens up new horizons for the synthesis of labile phosphorus-containing compounds. The beta-fluoroethyl ester of 1,3-butylenephosphorous acid and an equimolar amount of octanol were maintained for 10 hours at 20°C. Ethylene fluorohydrin was then driven off (95%) under vacuum, and the mixture was distilled. Octyl-1,3-butylene phosphite was obtained in 80% yield. Dioctylphenyl phosphonite (62% yield) and propylene-1,3-bis-1,3-butylene phosphite (83% yield) were obtained in similar fashion. The fluoroethyl esters can be used for the phosphorylation of high-molecular compounds, e.g., polyvinyl alcohol. [PFRS]

SUB CODE: 07 / SURM DATE: 13May65

UDC: 547.26'118

Card 1/1

L 27770-66 ENP(j)/ENT(m) RM

ACC NR: AP6018501

SOURCE CODE: UR/0079/65/035/011/1980/1982

36
B

AUTHOR: Nifant'yev, E. Ye.

ORG: none

TITLE: Chromatography of organic compounds of trivalent phosphorus in a thin layer of sorbent

SOURCE: Zhurnal obshchey khimii, v. 35, no. 11, 1965, 1980-1982

TOPIC TAGS: chromatography, organic phosphorus compound, alkylphosphine oxide, aluminum oxide, hydrolysis

ABSTRACT: It was demonstrated that the method of thin-layer chromatography can be used to characterize most trivalent phosphorus-containing organic compounds. Various neutral and acid phosphites, phosphonites, diphosphonates, alkylphosphorous, and dialkylphosphinous acids were investigated, using chromatography on a thin layer of aluminum oxide, with solvents: aliphatic and aromatic hydrocarbons, chloroform and carbon tetrachloride, as well as nitromethane and dimethylformamide. A specific characteristic of the chromatography of many phosphites and phosphonites was their hydrolysis, leading to blurring of the chromatograms on account of the appearance of decomposition products. Most of the compounds studied gave more distinct chromatograms in the case of determination immediately after application of the substance to the plate. Certain

Card 1/2

UDC: 546.183:543.544

L 27770-66

ACC NR: AP6018501

other types of trivalent phosphorus-containing compounds, such as amidophosphites and amidophosphonites generally gave very unclear, blurred chromatograms and could not be characterized, although tetraethyldiamides of glycoposphorous and diethylemides of glycoposphorous acids gave distinct results in chromatography on aluminum oxide. A definite relationship was found between the R_f values and the structure of the compounds studied: trialkylphosphites are characterized by greater R_f values than dialkylphosphites. Alkylphosphonous acids and mono-alkylphosphites exhibit even lower mobility. Dialkylphosphinous acids (dialkylphosphine oxides) are characterized by higher R_f values than dialkylphosphites. The method of thin-layer chromatography is applicable to a greater number of compounds and is more convenient to use for monitoring reactions of trivalent phosphorus compounds and for evaluating their individuality than the method of paper chromatography. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 25 May 64 / ORIG REF: 005 / OTH REF: 009

Card 2/2 CC

L 25686-66 EWT(m) RM

ACC NR: AP6016711

SOURCE CODE: UR/0079/65/035/012/2256/2256

AUTHOR: Nifant'yev, E. Ye.; Sorochkin, I. N.; Tuseyev, A. P.

ORG: none

TITLE: Synthesis of halo- and cyandoesoxysugars based on amidoglycophosphites and phosphonites

SOURCE: Zhurnal obshchey khimii, v. 35, no. 12, 1965, 2256

TOPIC TAGS: organic synthetic process, carbohydrate, alkylation, nonmetallic organic derivative, organic phosphorus compound, organic amide

ABSTRACT: Halo- and cyandoesoxysugars can be obtained by the Arbuzov reaction from available tetraalkyldiamidoglycophosphites and dialkylamidophosphonites. Alkyl iodides and bromides, and esters of monochloroacetic and monofluoroacetic acids, are used as the alkylating agents.

The following compounds were synthesized: 6-iodo-6-desoxy-1,2-3,4-diisopropylidenegalaactose (75% yield), 6-bromo-6-desoxy-1,2-3,4-diisopropylidenegalaactose (56% yield), 6-chloro-6-desoxy-1,2-3,4-diisopropylidenegalaactose (38% yield), 6-fluoro-6-desoxy-1,2-3,4-diisopropylidenegalaactose (19% yield), and 6-cyano-6-desoxy-1,2-3,4-diisopropylidenegalaactose (57% yield).

The reactions offer new possibilities for preparing derivatives of desoxysugar. They are conveniently carried out and are based on available amidophosphites and amidophosphonites of carbohydrates.

[JPRS]

SUB CODE: 07 / SUBM DATE: 04Jun65

Card 1/1

UDC: 547.455.56

L 31268-66 EWT(m)/EWP(j) RM

SOURCE CODE: UR/0079/66/036/002/0319/0321

ACC NR: AP6022804

AUTHOR: Nifant'yev, E. Ye.; Tuseyev, A. P.; Markov, S. M.; Didenko, G. F.

ORG: none

TITLE: Synthesis of ethyleneamidothiophosphites and -phosphonites

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 319-321

TOPIC TAGS: chemical synthesis, organic phosphorus compound, phosphorylation, mercaptan, organic amide, free radical stabilization

ABSTRACT: It was found that tetraethyldiamides of acids of trivalent phosphorus react with beta-aminoethylmercaptan to form previously unknown ethyleneamidothiophosphites and -phosphonites. These conversions were the first examples of phosphorylation of aliphatic mercaptides with amidophosphites and amides of phosphonous acids. The synthesized ethyleneamidothiophosphites and -phosphonites are of interest as inhibitors of free-radical reactions, particularly, those developing in living organisms.

Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 09Jul64 / ORIG REF: 003 / OTH REF: 002

UDC: 547.419.1

Card 1/1 82

0915

0723

L 31266-66 EWT(m)/EWP(j) RM
ACC ~~NR~~ AP6022806

SOURCE CODE: UR/0079/66/036/002/0363/0363

AUTHOR: Nifant'yev, E. Ye.; Gavrilova, A. I.; Bliznyuk, N. K.

ORG: none

TITLE: New method of synthesizing ethyleneimides of phosphorus acids ¹

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 363

TOPIC TAGS: chemical synthesis, imide, organic phosphorus compound, chemical reaction, esterification, organic imine compound

ABSTRACT: Three new methods were developed for synthesizing phosphoethyleneimides. Dialkyl phosphites were found to react with carbon tetrachloride, ethyleneimine, and triethylamine at 0-20° to form ethyleneimides of dialkylphosphorous acids. Both acid phosphonites, tetraalkyldiamides of phosphorous acid, and alkyl hypophosphites take part in the reaction; in the latter case diethyleneimides of alkylphosphoric acids are formed. Ethyleneimide esters of phosphorous acid are produced by alcoholysis of mixed ethyleneimidodialkylamides when amine hydrochlorides are used as catalysts. Ethyleneimines of trivalent phosphorous acids can be produced by reaction of the corresponding dimethylamides with ethyleneimine under considerably milder conditions than under transamination reactions. These reactions are model syntheses and are now being used to produce otherwise difficulty accessible ethyleneimides of phosphorus acids. [JPRS]

SUB CODE: 07 / SUBM DATE: 13May65

Card 1/1 2

UDC: 547.26'118 + 547.233

0915

0785

L 17721-66 EWP(j)/EWT(m) RM
ACC NR: AP6003415

SOURCE CODE: UR/0190/66/008/001/0076/0079

AUTHORS: Predvoditelev, D. A.; Nifant'yev, E. Ye.; Rogovin, Z. A.

36

ORG: Moscow Textile Institute (Moskovskiy tekstil'nyy institut)

8

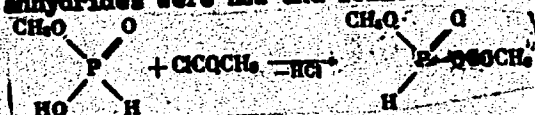
TITLE: New method for the synthesis of phosphor-containing cellulose esters

7.44.55

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 1, 1966, 76-79

TOPIC TAGS: cellulose, phosphate ester, esterification, phosphorylation, phosphorous acid, organic synthetic process, ester

ABSTRACT: Reaction of mixed acetic and methyl phosphorous anhydride (I) with cellulose (II) yielded cellulose alkyl phosphites (III), while esterification of II with methylphosphoric anhydride (IV) gave corresponding phosphate (V). Both reactions were of interest, as the prior methods of preparation of these compounds required rigorous conditions leading to the destruction of cellulose. Syntheses of both types of anhydrides were new and followed scheme 1:



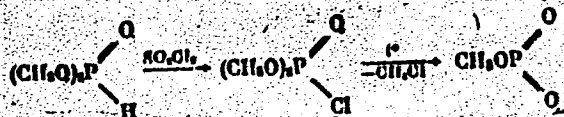
Card 1/2

UDC: 541.64+661.728.89 2

L 17721-66

ACC NR: AP6003415

and scheme 2:



Preliminary activation of cellulose with 80% acetic acid was required. III was prepared at 50--60C in an excess of I or in an organic solvent. Effects of time, temperature, and catalyst upon the amount of P introduced into the cellulose ester macromolecule were studied. Preparation of V required higher temperatures due to the lower reactivity of anhydrides of pentavalent phosphorus, and thus gave less satisfactory results. Orig. art. has: 2 figures and 3 equations.

SUB CODE: 07/ SUM DATE: 15Feb65/ ORIG REF: 005/ OTH REF: 001

Card 2/2 ast

L 23327-66 ENT(m)/EWP(j) RM

ACC NR: AF6006974

(A)

SOURCE CODE: UR/0190/66/008/002/0213/0218

AUTHORS: Pradvoditelev, D. A.; Nifant'yev, E. Ye.; Rogovin, Z. A.

ORG: Moscow Textile Institute (Moskovskiy tekstil'nyy institut)

TITLE: Synthesis and chemical transformations of cellulose alkylene phosphites
(192nd report in the series "Study of the structure and properties of cellulose and its derivatives")

SOURCE: Vysokomolekulyarnyye soedineniya, v. 8, no. 2, 1966, 213-218

TOPIC TAGS: cellulose plastic, phosphorylation, organic synthetic process

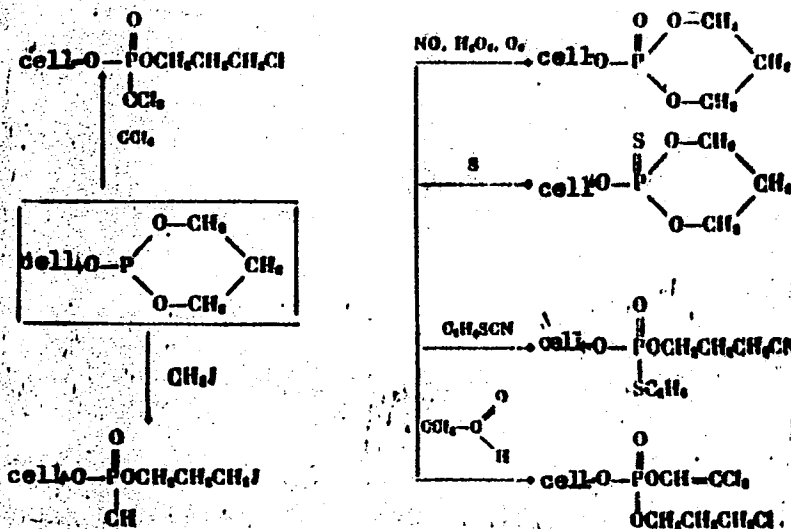
ABSTRACT: Synthesis of cellulose alkylene phosphites by phosphorylation of cellulose with amides of propylene glycol phosphites or with ethylene glycol phosphites is described. Effect of the structure of the amides, reaction time, and temperature upon the amount of the phosphorus incorporated into the product was investigated and is illustrated in Fig. 1. Reactions of cellulose propylene phosphite with a variety of reagents and the products obtained are summarized by

Cord. 1/3

UDC: 66.095.26

L 2332⁶-66

ACC NR: AP6006974



Hydrolytic stability of all the resulting phosphite esters was studied; the esters of pentavalent P were found more stable than those of trivalent P. N. B. Sokolova participated in the experimental work.

End 2/3

L 23327-66

ACC NR: AF6006974



Fig. 1. Effect of the phosphorylation conditions upon the amount of phosphorus incorporated into the cellulose macromolecule (ratio 40): 1 - treatment at 80C; 2 - at 100C; 3 - at 120C. a - Phosphorylation with dimethylamide of ethylene glycol phosphite; b - phosphorylation with dimethylamide of propylene glycol phosphite.

Orig. art. has: 2 tables, 1 figure, and 11 equations.

SUB CODE: 07/

SUBM DATE: 15Feb65/

ORIG REF: 008/

OTH REF: 005

Card 3/3 FV

L 06510-67 EWT(m)/EWP(j) RM

ACC NR: AP7000482

SOURCE CODE: UR/0079/66/036/006/1124/1129

NIFANT'YEV, E. Ye., TUSEYEV, A. P., TARASOV, V. V.

"Colamine Glycophosphites and -Phosphonites"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 6, 1966, pp 1124-1129

Abstract: The phosphorylation of colamine and N-methylcolamine by tetraethyl-diamides of methyl- and ethylphosphonous acids was studied. The amido-esters obtained were used to phosphorylate carbohydrates: 1,2-3,4-diisopropylidenegalactose, containing a free primary hydroxyl, and 1,2-5,6-diisopropylideneglucose, containing a free secondary hydroxyl group, thereby synthesizing the corresponding colamine glycophosphonites. Colamine glycophosphites were synthesized from diamidoglycophosphites, such as the tetraethyldiamidophosphite of 1,2-5,6-diacetoneglucose, and the colamine derivative, forming cyclic glycoethylenemethylamidophosphites, which reacted with various alcohols to form neutral colamine glycophosphites. The infrared spectra and other properties of the compounds obtained, including a promising Arbuzov reaction, were studied. Orig. art. has: 2 figures and 3 tables. [JPRS: 37,023]

TOPIC TAGS: phosphorylation, organic phosphorus compound

SUB CODE: 07 / SUBM DATE: 25Feb65 / ORIG REF: 008 / OTH REF: 001

Card 1/1 LS

UDC: 547.26'118

L 8506-66 (A) EWT(m)/ENP(j)/T/ETC(m) WW/RM
 ACC NR: AP5028487 SOURCE CODE: UR/0286/65/000/020/0065/0066
 AUTHORS: Nifant'yev, E. Ye.; Shalayskaya, G. V. 44.55 37
 ORG: none 8
 TITLE: A method for obtaining phosphites and phosphonites of polyvinyl alcohol.⁷
 Class 39, No. 175653^{44.55} announced by Moscow State University im. M. V. Lomonosov
 (Moskovskiy gosudarstvennyy universitet)
 SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 65-66
 TOPIC TAGS: phosphorus compound, polyvinyl alcohol, ester, amide, phosphoric acid, phosphinic acid
 ABSTRACT: This Author Certificate presents a method for obtaining phosphites and phosphonites of polyvinyl alcohol. To obtain products with a high thermal stability, polyvinyl alcohol is treated with esters or amides of phosphoric or phosphinic acid while being heated to 100-180C.
 SUB CODE: 07/ SUBM DATE: 17Nov64
 BVK
 Card 1/1 UDC: 678.674 : 678.85
 2

ACC NR: AP6035684 (A,N) SOURCE CODE: UR/0413/66/000/019/0031/0031

INVENTOR: Nifant'yev, E. Ye.; Komlev, I. V.

ORG: none

TITLE: Preparation of hydrogen alkyl phosphates and phosphonates.
Class 12, No. 186469 [announced by Moscow State University im. M. V.
Lomonosov (Moskovskiy gosudarstvennyy universitet)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
no. 19, 1966, 31

TOPIC TAGS: acid alkyl phosphate, acid alkyl phosphonate, ozone,
oxidizing agent, phosphate

ABSTRACT: To simplify the process and to increase the yields in the
preparation of hydrogen alkyl phosphates and alkyl phosphonates by
treatment of the latter with oxidizers, ozone is used as the oxidizing
agent. [W.A. 50]

SUB CODE: 07/ SUBM DATE: 17Nov64

Card 1/1

UDC: 547.26.118.07

ACC NR: AP6033455

SOURCE CODE: UR/0413/66/000/018/0039/0039

INVENTOR: Bliznyuk, N. K.; Kvasha, Z. N.; Nifant'yev, E. Ye.;
Varshavskiy, S. L.

ORG: none

TITLE: Preparation of O-alkyl esters of dialkylphosphinic acids.
Class 12, No. 185905 [announced by All-Union Scientific Research
Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy
institut fitopatologii)]

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 39

TOPIC TAGS: alkyl dialkylphosphinate, phenylarsenic acid, *phosphinic acid,*
ester

ABSTRACT: To obtain biologically active compounds, dialkylphosphinic
acids are treated with alcohols in the presence of phenylarsenic acid
as catalyst. The reaction is carried out with excess alcohol and azeo-
tropic removal of water at 180—220°C. [W.A. 50]

SUB CODE: 07/ SUBM DATE: 15Nov65

Card 1/1

UDC: 547.26'118.07

ACC NR: AP6030904

SOURCE CODE: UR/0080/66/039/008/1881/1884

AUTHOR: Fedorov, S. G.; Nifant'yev, E. Ye.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Phosphites and phosphonites of novolak resins

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 8, 1966, 1881-1884

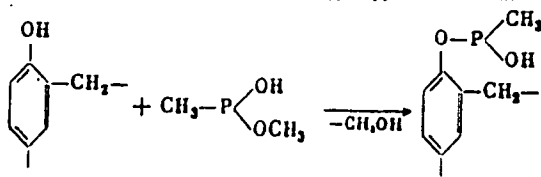
TOPIC TAGS: novolak resin, ~~phosphorylated novolak resin~~ *RESIN, PHOSPHORYLATION,*
POLYMER CROSS LINKING

ABSTRACT: Previous studies of this series showed that new novolak resin-based polymers with desired properties, including thermostable biologically active polymers, may be prepared by replacing the hydroxyl groups of the novolak resin (I) with various functional groups. Eight previously unreported modified novolak resins were obtained by phosphorylation of the resin with esters and amides of phosphonous and phosphinous acids: methyl methylphosphonite (II), dimethyl phosphite (III), di(chloroethyl) phosphite (IV), and triphenyl phosphite (V). Phosphorylation of I with II, III, IV, and V is carried out in a distillation apparatus by heating the reaction mixture for 2 hr, at 170°C in the presence of Na in an inert gas. The reaction of I with II proceeds as follows:

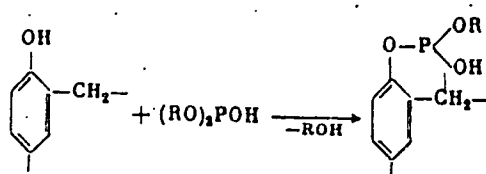
Card 1/5

UDC: 541.6+546.18

ACC NR: AP6030904



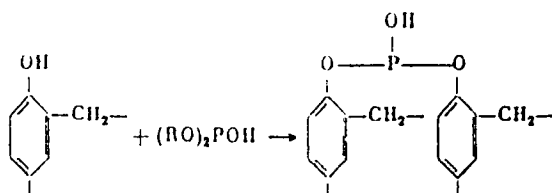
With dialkyl phosphites I reacts differently, depending on its relative amount in the mixture. At low concentration of I, a compound containing mainly fragments of alkylarylphosphosphites are formed:



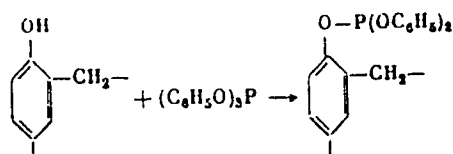
When the reaction mixture contains an equal number of alkoxy and hydroxy groups, cross-linked phosphites containing mainly fragments of diarylphosphites, are formed:

Card 2/5

ACC NR: AP6030904



The phosphorylation products are insoluble in organic solvents and decompose on heating without melting. The reaction of I with V in mixtures containing 3 molecules of phosphite per each OH group of the resin yielded monosubstituted polymers:

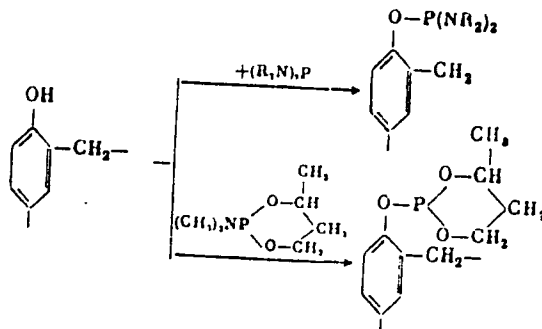


At lower phosphite (V) concentration, cross-linked polymers are formed. The structure of the phosphorylation product was established by methanolysis and separation of the methanolysis products by paper chromatography. Reactivity of the phosphorylating agents in these reactions decreased in the order II>III>IV>V. Phosphorylation of I

Card 3/5

ACC NR: AP6030904

with amides of 1,3-butylenephosphosphonous acid (hexamethyl amide VI, hexaethyl amide VII, and dimethyl amide VIII) proceeds under milder conditions than with the esters. At 100—130°C in an inert gas with an excess of the amide, the reaction proceeds with complete phosphorylation of the resin:



At low amide concentration, cross-linked polymers are formed. All phosphorylation products are solidified by usual methods, e.g., by heating with urotropine, to form thermostable plastics. They are highly reactive and may be used as starting materials in the preparation of polyphosphates, polyesters, and other products. Physical

Card 4/5

ACC NR: AP6030904

constants and reaction conditions under which the phosphorylated novolak resins are formed are given in the table. [WA-50; CBE No. 11]

Phosphorylating agent: resin (I)	Molar ratio, phosphorus agent: novolak resin (II)	Reaction conditions		m.p. of reaction product (°C)	Specific viscosity	Composition P and N in %			
		Temperature (°C)	Time (hrs)			Found		Calculated	
						P	N	P	N
(II)	3:1	160—170	3	30—50	0.051	18.55	—	18.45	—
(III)	3:1	170—175	2	95—110	0.083	18.69	—	18.85	—
(III)	1:1	170—175	3	Decomposed above 360	—	15.63	—	16.85	—
(III)	1/2:1					15.89	—	—	—
						13.32	—	12.01	—
						13.58	—	—	—
(IV)	3:1	140—145	4	95—100	0.065	10.82	—	—	—
(V)	3:1	170	8	120—150	0.075	11.26	—	13.33	—
(VI)	3:1	100—110	0.75	—	0.032	13.22	—	9.63	—
(VII)	3:1	135	1.5	—	0.036	13.40	11.60	13.84	12.50
(VIII)	1.1:1	135—145	3	100—110	0.027	9.28	11.75	11.07	10.00
						9.45	10.21	—	—
						12.78	10.51	13.84	—
						12.83	—	—	—
						11.37	—	—	—
						11.45	—	—	—
						13.27	—	—	—
						13.42	—	—	—

Table 1.
Phosphorylation of novolak resin

SUB CODE: 07/
SUBM DATE: 20Jul64/
ORIG REF: 010/
OTH REF: 003/

* Solution concentration 0.1 g/10 mls solvent

Card 5/5

ACC NR: AP6035831

SOURCE CODE: UR/0413/66/000/020/0037/0037

INVENTOR: Nifant'yev, E. Ye.; Koroteyev, M. P.

ORG: none

TITLE: Preparation of alkylphosphonic acid dichlorides, Class 12, No. 187013 [announced by Chemistry Department, Moscow State University im. M. V. Lomonosov (Khimicheskii fakul'tet Moskovskogo gosudarstvennogo universiteta)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 37

TOPIC TAGS: alkylphosphinyl dichloride, phosphorus ~~trichloride~~^{compound}, sodium alkylphosphite, *phosphonic acid*

ABSTRACT: To simplify the method for the preparation of alkylphosphonyl dichlorides with the use of PCl_3 , sodium alkyl phosphites are treated with PCl_3 .

[WA-50; CBE No. 14]
[PS]

SUB CODE: 07/ SUBM DATE: 05Aug65

Card 1/1

UDC: 547.241-312'113.07

6.4300 (also 1155)
9.3274 (also 1147)

²⁰⁶⁹²
S/120/61/000/001/030/062
E194/E184

AUTHOR: Nifant'yeva, F.P.

TITLE: An Ultra-High-Frequency Range Ferrite Phase Shifter

PERIODICAL: Pribery i tekhnika eksperimenta, 1961, No.1, pp.101-102

TEXT: Ferrite phase shifters are becoming widely used for altering the phase of a signal over a given frequency range. However, most of the work has been done on the development of ferrite phase shifters for the super-high-frequency range. One work has been published on a ferrite phase shifter for the decimeter and upper end of the metre range giving a phase displacement from 0 to 360 ° and having low losses, but it is complicated and phase control is difficult. The present article describes an ultra-high-frequency phase shifter which can alter the signal phase in the range 0 to 360 °C by altering a longitudinal magnetic field applied to the ferrite from 0 to 250 oe. The phase shifter is of simple construction and comparatively small size; it is illustrated schematically in Fig.1. This diagram shows the construction of a phase shifter in which the length of coaxial line is 60 cm, the internal diameter of the outer conductor is

Card 1/3

✓

20692

S/120/61/000/001/030/062

E194/E184

An Ultra-High-Frequency Range Ferrite Phase Shifter

9 cm, the external diameter of the spiral is 7.5 cm, the number of turns of the spiral is 5 turns per cm, the centre core is ferrite and the outer hatched cylinder is a dielectric. The input and output of the phase shifter are connected to coaxial lines by a plug and socket arrangement. The transformer must be designed to match the coaxial line of 75 ohms and the spiral line. The spiral contains two ferrite rods (ferrite $\text{Li}_2\text{OZnOFe}_2\text{O}_3$ grade Φ -25 (F-25); the electrical characteristics of this material have been published elsewhere. The magnetic field is set up by a coaxial spiral winding on the external cylinder consisting of a two-layer winding of wire grade $\square\square$ -1.25 (PEL-1.25), contained in a water bath. The damping in the line and the phase displacement were measured at a frequency of 150 Mc/s. The line attenuation was determined by measuring the signal voltage at input and output and it includes both losses in the ferrite and reflections from the ends of the lines due to imperfect matching with the coaxial lines. The amount of phase shift was determined from the interference pattern produced on a

Card 2/3

X

20692

S/120/61/000/001/030/062

An Ultra-High-Frequency Range ... E194/E184

detector. As the magnetic field is increased from 0 up to 250 oe the phase shift increases from 0 to 360° and the attenuation drops from 12 to 3.2 db. Acknowledgement is expressed to V.N. Detinko for valuable indications.

There are 2 figures and 4 references: Soviet, 1 probably translated from English)

ASSOCIATION: Sibirskiy fiziko-tekhnicheskii nauchno-issledovatel'-skiy institut (Siberian Physico-technical Scientific Research Institute)

SUBMITTED: January 2, 1960

✓

Fig. 1

Card 3/3

L 10156-66 EWT(d)/ESS-2

ACC NR: AR5027553

SOURCE CODE: UR/0274/65/000/008/A010/A010

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 8475

AUTHOR: Nifant'yeva, E. P.; Yefremova, L. G.

TITLE: Decimeter-band multichannel device

CITED SOURCE: Dokl. Nauchno-tekhn. konferentsii, posvyashch. dnyu radio. Tomsk, Tomskiy un-t, 1964, 98-107

TOPIC TAGS: electric filter, decimeter band filter

TRANSLATION: A set of filters intended for connecting to a common channel for the purpose of dividing or mixing signals is considered; the set covers a certain waveband. The set contains a power divider and directional filters after which band filters are connected to improve frequency-response skirt. The device designed according to this system contains 21 channels with a 2% passband which overlaps the adjacent-channel characteristics at a level of 25 db within 1% of the central frequency [Translator's note: the Russian original is not clear]. The passband loss is 12 db or less. Calculation and design of the filters and divider (T-junction or hybrid ring) are given. Estimated results agree with experimental data. The device ensures independent operation of channels. Bib 5, figs 8.

SUB CODE: 09

Card 1/1 /pu

DDC: 621.372.54

PSHONIK, A.T., prof.; NIFANT'YEVA, L.D.

Changes in the higher nervous activity in circumscribed neuro-
dermatitis. Vest. dermat. i ven. 38 no.4:3-9 Ap '64.

(MIRA 18:4)

1. Kafedra normal'noy fiziologii (zav. - prof. A.T.Pshonik)
Krasnoyarskogo meditsinskogo instituta.

5.3600

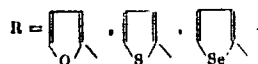
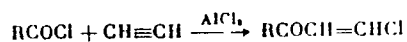
71392
507/19-10-1-8-1/12

AUTHORS: Kochetkov, N. K., Nifant'yev, E. Ye., Nifant'yeva, L. V.

TITLE: β -Chlorovinyl Ketones of the Heterocyclic Series

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, No 1, pp 241-245 (USSR)

ABSTRACT: Synthesis of some β -chlorovinyl ketones, containing a five-membered heterocyclic radical, by the condensation of the corresponding acid chlorides with acetylene, was studied. It was found that acid chlorides of furan-2-carboxylic, thiophene-2-carboxylic, and selenophene-2-carboxylic acids easily condense with acetylene to form corresponding β -chlorovinyl ketones:

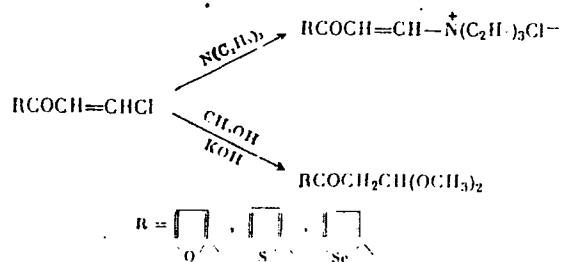


Card 1/4

β -Chlorovinyl Ketones of the Heterocyclic Series

77393
S07/79-10-1-5-773

The reaction takes place at 30-40°. The heterocyclic β -chlorovinyl ketones, like other vinyl ketones, react with alcohol in the presence of alkalis to form β -keto-acetals:

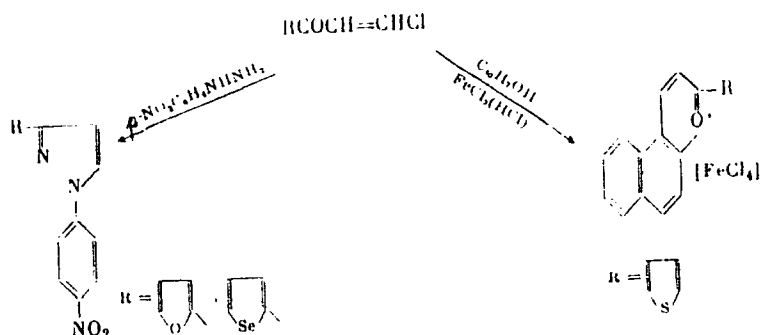


They also readily condense with p-NO₂C₆H₄NHNH₂ to form corresponding pyrazole derivatives. Thienyl-(1)- β -chlorovinyl ketone condenses with β -naphthol in the presence of ferric chloride and HCl.

Card 2/4

β -Chlorovinyl Ketones of the Heterocyclic Series

11201
SC7/11-1-1/11



Preparation of the following compounds is given:
 Furyl-(2)- β -chlorovinyl ketone (41%, based on acetyl chloride), bp 102-105° (10 mm). Thienyl-(2)- β -chlorovinyl ketone (65%), bp 154-156.5° (23 mm). Selenyl-(2)- β -chlorovinyl ketone (45%), bp 132-135° (7 mm).

Card 3/4

β -Chlorovinyl Ketones of the Heterocyclic Series

77392
SOV/79-30-1-5-71

Dimethyl acetal of furoyl-(2)-acetaldehyde (6%), mp 122-123° (10 mm), n_D^{20} 1.4998, d_4^{20} 1.1800. Dimethyl acetyl of thienyl-(2)-acetaldehyde (5%), mp 141-143° (8 mm), n_D^{20} 1.5146, d_4^{20} 1.1910. 2-Furyl-(2')-1-(p-nitrophenyl)-pyrazole (65%), mp 70.5-71°. 2-Selenyl-(2')-1-(p-nitrophenyl)-pyrazole (65%), mp 100-101°. 2-Thienyl-(2')-naphtho-(1,2:5,6)-pyrylium ferrichloride (66%), mp 176-177°. There are 11 Soviet references.

ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy universitet)

SUBMITTED: September 30, 1958

Card 4/4

11-11-67 71(11)/11(1) 10:
ACC. NO. A17003104

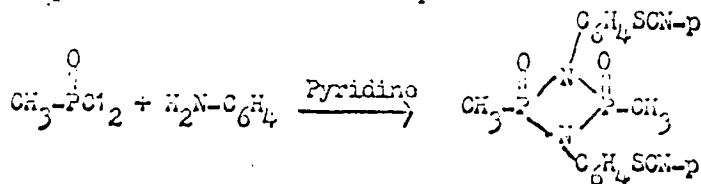
SOURCE CODE: UA/0407/66/000/003/0465/0466

4. YAKIMENKO, M. N., SHVALOVA-SHCHERBOVAYA, K. D. and NERADITSKYA, L. V.,
All-Union Scientific Research Institute of Chemical Means of Plant Protection,
Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv
zashchity rasteniy)
"Synthesis of p-thiocyanataryldioxaphosphozanes"

Moscow, Khimiya Geterotsiklicheskikh Soedineniy, No. 3, 1966, pp 465-466

TOPIC TAGS: organic synthetic process, phosphorylation, phosphonic acid

ABSTRACT: During the investigation of phosphorylation of the substituted
p-thiocyananilines, the interactions of 4-thiocyananiline, 3-chloro-4-
thiocyananiline and 3-methyl-4-thiocyananiline with methyl- and
phenylphosphonic acid dichlorides were studied; it was shown that the
reaction proceeds uniquely; even at room temperature the corresponding
heterocyclic compounds are formed for example:



Card 1/2

UDC: 546.18 + 547 + 711 + 543.422

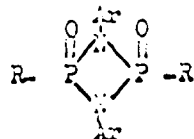
0725 2054

L 10303-67

ACC NR: A27003104

The structure of the compounds obtained emanates from the data of the experimental analysis, molecular weight and infrared spectra. The absence of bands in the infrared spectra, which characterize the NH-fragments, indicates the formation of the cyclic phosphorus-containing substances and not the dianilines of phosphonic acids. It should be noted that in the process of the reaction the thiocyno group is not lost since there is a 2160 cm^{-1} band in the infrared spectrum.

Six p-thiocynoaryldioxophosphozanes with the molecular structure that follows were characterized:



where $R = \text{CH}_3$ and $\text{Ar} = \text{C}_6\text{H}_4\text{SCN-p}$, $\text{C}_6\text{H}_3(\text{Cl})\text{SCN-3, 4}$ or $\text{C}_6\text{H}_3(\text{CH}_3)\text{SCN-3, 4}$.

Orig. art. has: 1 table. [JPRS: 38,967]

TOPIC TAGS: organic synthetic process, phosphorylation, IR spectrum, phosphoric acid

SUB CODE: 07 / SUBM DATE: 28Jun65 / ORIG REF: 002 / OTH REF: 002
Card 2/2

KUZNETSOV, A.V.; NIFASHEVA, I.F.; GAVRILOVA, L.A.; DANILOVA, V.M.

Frontal sections in the Arctic Basin and their relationship
with the types of synoptic processes. Trudy AANII 255:192-
212 '63. (MIRA 17:6)

L-15260-65 EWT(1)/FCC GW

ACCESSION NR: AT4048801

S/3116/63/255/000/0192/0212

AUTHOR: Kuznetsov, A. V.; Nifasheva, I. F.

TITLE: Frontal discontinuities in the arctic basin and their relationship to types of synoptic processes

SOURCE: Leningrad, Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. Trudy*, v. 255, 1963. Sbornik statey po voprosam dolgosrochnykh prognozov pogody* dlya Arktiki (Collection of articles on the problems of long-range weather forecasting for the Arctic), 192-212

TOPIC TAGS: long-range weather forecasting, Arctic discontinuity, atmospheric front, troposphere, tropopause, short-range weather forecasting

ABSTRACT: A study was made of the characteristics of fronts entering the central arctic region or forming there. The analysis involved 235 fronts observed in January and July from 1954 to 1960. The fronts were selected from daily surface synoptic charts of Eurasia and AT500 and AT700 pressure pattern charts; radiosonde data also were used. Vertical time cross sections were used in this analysis. The arctic basin was divided into two parts, eastern and near-polar, and the analysis made separately for each.

Card 1/3

L 15260-65

ACCESSION NR: AT4048801

0

It was found that in the central arctic regions fronts are observed in both winter and summer. In most cases they extend to great heights and can be traced throughout the troposphere as far aloft as the tropopause. In summer the height of fronts is approximately identical in both regions. In winter high-level principal fronts have a maximum frequency over the eastern region and occluded fronts are most common over the near-polar region. In winter the arrival of fronts in the near-polar region is more common than in the eastern region. In summer, on the other hand, the arrival of fronts is more common in the eastern region than in the near-polar region. In both regions of the central part of the arctic basin in winter the frequency of principal fronts and occluded fronts is approximately equal. Occluded fronts predominate in summer. In summer fronts arrive in the eastern region for the most part when there is an E form of circulation; fronts arrive in the near-polar region when there are either C or E forms, but with some predominance during a C form. Fronts are observed in winter in both regions primarily when there is an E form of circulation and more rarely when there is W circulation. In summer the greatest frequency of fronts is observed when there are processes of groups E, D and F, but in winter with processes of groups A, B, D and E. The rate of movement of warm fronts is greater than that of cold fronts and in the near-polar region is greater than in the eastern region (in both summer and winter), but for the most

Card

2/3

L 15260-65

ACCESSION NR: AT4048801

part the mean rate of movement of fronts is close to their mean rate of movement in the temperate latitudes. The results of investigation of synoptic conditions of the passage of cold fronts and information on aerological structure reported in this article can be used either in short-range or 3-day weather forecasting. Orig. art. has: 7 figures and 15 tables.

ASSOCIATION: Arktichesky i Antarktichesky nauchno-issledovatel'skiy institut,
Leningrad (Arctic and Antarctic Scientific Research Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: ES

NO REF SOV: 011

OTHER: 000

Card 3/3

28244

S/581/61/000/000/015/020
D299/D304

271220

AUTHORS: Lemberg, V.K., Bukhtoyarova, Z.M. and Nifatov, A.P.

TITLE: The distribution of plutonium in the liver according to the results of histoautoradiography

SOURCE: Lebedinskiy, A.V. and Moskalev, Yu.I., eds. Biologicheskoye deystviye radiatsii i voprosy raspredeleniya radioaktivnykh izotopov; sbornik rabot. Moscow, Gosatomizdat, 1961, 136-144

TEXT: Due to the absence of suitable published data on the subject, the authors set out to study the course of the micro-distribution of plutonium-239 in the liver and bones by the histoautoradiographic method, i.e., by studying histological slides fixed on a photographic emulsion. The tests were run on white rats, plutonium-239 being introduced intraabdominally as $\text{Pu}(\text{NO}_3)_4$ in a single dose of $7 \mu\text{c/kg}$ at $\text{pH} = 2$. After 6 and 12 hours, and 1, 3, 7, 14, 28, 41, 56, 88 and 225 days the rats were decapitated and slides of the

Card 1/3

23244

S/581/61/000/000/015/020

D299/D304

The distribution of plutonium..

bone and liver tissues prepared. A detailed analysis of the photos showing the tracks of plutonium alpha-particles at various stages after the introduction of plutonium-239 is given and the results of the experiments are compared with various findings in the specialized literature on this subject. The histoautocardiograms showed a definite redistribution of plutonium in the structural elements of the bones and liver. Within 6-12 hours after its introduction diffuse distribution of plutonium in all structural parts of the liver is noted. Subsequently, from 1-225 days, the plutonium content in the hepatic cells decreases and begins to accumulate in the Kupffer's cells and the macrophages of the perivascular connective tissue. Six to 12 hours after its introduction the bones contain only a small amount of diffusely distributed plutonium (bone marrow, compact substance and diploë). By the end of the 3rd day a marked increase was noted in the plutonium content of the bone marrow. At subsequent stages the plutonium content in the bone marrow gradually diminished, but increased in the endosteum and periosteum. Some plutonium, however, was retained in the compact bone throughout the

Card 2/3

The distribution of plutonium...

S/581/61²⁸²⁴⁴/000/000/015/020
D299/D304

whole period of the investigation. There are 6 figures and 17 references: 6 Soviet-bloc and 11 non-Soviet-bloc. The 4 most recent references to English-language publications read as follows: J.S. Arnold cited by L.P. Lamerton "Proceedings of the Second United Nations International Conference of the Peaceful Uses of Atomic Energy", vol. 22, p. 119. Geneva, 1958; M.P. Finkel, Proceedings of the Society for Experimental Biology and Medicine, 83, 3, 494 (1953); M. Heller, Ch. 5 - "Bones" in the book by W. Bloom. Histopathology of Irradiation from External and Internal Sources, 70-161. N.Y. - Tor. - Lnd., 1948; R.J. Schubert, M. Finkel, M. White a. G. Hirsch, J. Biolog. Chem., 182, 2, 635 (1950).

Card 3/3

27 1220

25245

S/581/61/000/000/016/020
D299/D304

AUTHOR: Nifatov, A.P.

TITLE: The course of morphological lesions of the liver in rabbits affected by plutonium-239

SOURCE: Lebedinskiy, A.V. and Moskalev, Yu.I., eds. Biologicheskoye deystviye radiatsii i voprosy raspredeleniya radioaktivnykh izotopov; sbornik rabot. Moscow, Gosatomizdat, 1961, 145-154

TEXT: The author's previous observations showed that dystrophic and regenerative processes occur in the liver of rats affected by plutonyl sodiotriacetate. Some rats develop cirrhosis and tumors of the liver. These studies, however, related mainly to morphological lesions at remote dates in animals which had died. The aim of the present work was to study the course of morphological lesions of the liver in rabbits affected by plutonium nitrate. The plutonium nitrate solution was injected intravenously in doses of 21, 14,

Card 1/3

The course of morphological lesions...

28245
S/581/61/000/000/016/020
D299/D304

7 and 2 μ c/kg. Some rabbits were killed off after 2 weeks, 1, 3, 4, 5, 6, 9 and 12 months. The rest were spared to study their survival rate and the remote effects of the isotope. A detailed description of the liver lesions (as viewed under the microscope) at various stages is given. At remote stages the plutonium induced marked structural hepatic lesions of the annular cirrhosis type. The morphological lesions had a definite sequence of development and were directly proportional to the total dose of ionizing radiation. Doses of 21 and 14 μ c/kg induced cirrhosis of the liver in 77.5% of the animals within 3-6 months; a dose of 2 μ c/kg induced cirrhosis in 23% of the animals by the 9th month. With a dose of 2 μ c/kg most rabbits showed symptoms of restoration by the 9th month. Some of these animals developed regenerative hepatomata and adenomata of the common bile duct. There are 4 figures, 1 table and 12 references: 10 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: C. L. Prosser and oth. Radiology, 49, 299 (1947); R.P. Rhades, Ch. 11 -

Card 2/3

The course of morphological lesions... ²⁸²⁴⁵
S/581/61/000/000/016/020
D299/D304

"Structures accessory to the Gastrointestinal Tract" in the book
by W. Bloom. Histopathology of Irradiation from External and
Internal Sources, 541-549, N.Y. - Tor. - Lnd., 1948.

X

Card 3/3

27.1220

26248
S/581/61/000/000/019/020
D299/D304

AUTHOR: Nifatov, A.P.

TITLE: The remote consequences of intraabdominal injection of plutonium acetate

SOURCE: Lebedinskiy, A.V. and Moskalev, Yu.I., eds. Biologicheskoye deystviye radiatsii i voprosy raspredeleniya radioaktivnykh izotopov; sbornik rabot. Moscow, Gosatomizdat, 1961, 174-181

TEXT: A study was made of the remote consequences of plutonium acetate injected intraabdominally in white rats in doses of: group I - 21.5, group II - 11.5, group III - 6.3, group IV - 3.3 and group V - 1.6 μ c/kg. Some rats were killed off after 1 and 2 weeks and 1, 3, 6 and 12 months. The pathoanatomical lesions in the organs of these and of 99 rats that died were studied. Data on the life spans was processed statistically. The death of most of the group I rats was due to aplasia of the hemopoietic tissue and the

Card 1/3

The remote consequences...

28248
S/581/61/000/000/019/020
D299/D304

appearance of inflammatory lesions in the lungs and gastrointestinal tract. Only one tumor was found in this group. Aplasia and inflammatory lesions were noted in the other 4 groups, but to a lesser extent. Groups II-V most often developed tumors of the bone and hemopoietic tissues, gastrointestinal tract, liver and mammary glands. Group V contained most animals with multiple tumors. The rate of carcinogenesis increased with a decrease in the plutonium dose. This conformed with the findings of Z.M. Bukhtoyarova and V.K. Lemberg (Ref. 3: Vopr. onkologii, 5, 8, 140 (1959)) who noted the greatest number of rats with tumors (54 and 40%) after the injection of plutonium acetate in doses of 1.89 and 4.0 $\mu\text{c/kg}$. The most common tumor with plutonium acetate is osteosarcoma. Osteosarcomata were primarily localized in the long tubular bones and more rarely in the skull, vertebrae and ribs. The largest percentage of osteosarcomata was noted at a dose of 3.3 $\mu\text{c/kg}$. Some rats killed off after 6 and 12 months showed pathological osteogenesis in the metaphysics and diaphysis of the long tubular bones. Simi-

Card 2/3

28248

S/581/61/000/000/019/020
D299/D304

The remote consequences...

lar lesions have been observed by other authors and from the action of plutonium nitrate. A combination of dystrophic lesions and symptoms of atypical regeneration was noted relatively frequently in the liver of the test animals: discomplexation of the hepatic beams, the appearance of hepatic cells of various size and shape with two and three nuclei, a large number of mitotically and amitotically dividing cells. Comparison showed that the number of carcinogenic processes in the hemopoietic tissue is greater from plutonium acetate than from plutonium nitrate. The optimum blastomogenic doses of plutonium acetate are 1.6 and 3.3 $\mu\text{c/kg}$. There are 4 tables and 18 references: 13 Soviet-bloc and 5 non-Soviet-bloc. The references to the English-language publications read as follows: M.P. Finkel, Proc. Soc. Experim. Biol. and Med., 83, 3, 494 (1953); J.I. Hamilton, Radiology, 49, 3, 325 (1947); L.F. Lamerton, Proceedings of the Second United Nations International Conference of the Peaceful Uses of Atomic Energy, vol. 22, p. 119, 1958, Geneva; H. Lisco, P.M. Finkel, A.M. Brues, Radiology, 49, 3, 361 (1947).

Card 3/3

44062

S/742/62/000/000/004/021
I015/I215

271220

AUTHORS: Lemberg, V.K., Nifatov, A.P.

TITLE: The microdistribution of plutonium in the liver of rabbits and rats

SOURCE: Plutoni-239; raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya. Ed. by A.V. Lebedinskiy and Yu.I. Moskalev. Moscow, Medgiz, 1962, 23-31

TEXT: The detailed microdistribution of this element in the liver has not yet been clarified. Experiments were carried out on 48 rabbits and 44 albino rats. The former received a single dose of 7 μ Ci/kg b.w. of plutonium nitrate (pH = 2.0) intravenously and the latter were given the same dose i.p. In addition, a single dose of

Card 1/3

S/742/62/000/000/004/021
I015/I215

The microdistribution of plutonium...

$3\mu\text{Ci/kg}$ b.w. of sodium plutonyl-triacetate ($\text{pH} = 6.5$) was injected i.p. to 12 albino rats. The rabbits were sacrificed by air embolism 1,3,7,14,30,90,135 and 180 days after the injection. Nine rabbits died during that period of time. The rats were decapitated 6 and 12 hours, and 1,3,7,14,30,45,60,90 and 210 days after the injection. The rats which received the complex salt of plutonium were sacrificed 14, 30, 90 and 365 days after the injection. The liver was fixed in 10% formalin solution, embedded in celloidin-paraffin and cut into sections 5μ thick. Autoradiographs were prepared according to the method of Ye.V. Erleksova and Evans. Exposure time: 4-8 weeks in a refrigerator. Staining with Weigert's hematoxylin. It was found that Pu was accumulated mainly in the reticulo-endothelial system elements of the liver. The complex salt of plutonium was distributed relatively evenly in all the liver tissue elements and was present in lesser

Card 2/3

S/742/62/000/000/004/021
I015/I215

The microdistribution of plutonium...

amounts than the other plutonium compounds. There was a difference in the dynamics of the microdistribution of plutonium nitrate between the rats and the rabbits: it was diffusely distributed during 6-12 hours after the injection in the rats and subsequently accumulated in Kupfer cells and macrophages (1-210 days), whereas in the rabbits it appeared in high concentration in the RES elements of the liver already 1 day after the injection. There are 9 figures.

X

Card 3/3

44076

S/742/62/000/000/018/021
I015/I215

271220

AUTHOR: Nifatov, A.P.

TITLE: Morphologic changes in the liver of rabbits and rats following the administration of plutonium-239

SOURCE: Plutoni-239; raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya. Ed. by A.V. Lebedinskiy and Yu.I. Moskalev. Moscow, Medgiz, 1962, 129-141

TEXT: There are relatively only a few data in the medical literature about the morphologic changes in the liver in cases of Pu injuries. Experiments were carried out on rabbits and rats. The rabbits received a single dose of 21,14,7 and 2 $\mu\text{Ci/kg}$ b.w. of Pu nitrate (pH = 2.0) i.v. The rats received a single dose of 7 $\mu\text{Ci/kg}$ b.w. of Pu nitrate i.p. The complex sodium plutonyltriacetate (pH = .

Card 1/3

S/742/62/000/000/018/021
I015/I215

Morphologic changes in the liver...

6.5) was also injected to rats i.p. in a single dose of $6.3 \mu\text{Ci/kg}$ b.w. The rabbits were sacrificed 1,3,7,14 days and 1,3,4 $\frac{1}{2}$,6,9 and 12 months after the injection. The rats were sacrificed 6 and 12 hours 1,3,7,14 days and 1,1 $\frac{1}{2}$,2,3 and 7 months after the injection. The livers of the sacrificed animals as well as of those which died were fixed in 10% formalin and Zenker's formol solutions and embedded in celloidin-paraffin. The sections were stained with hematoxylin-eosin, with azan for connective tissue, by Pearl's method for the detection of iron and with Sudan-3 (frozen sections) for lipids. The morphologic changes in the liver of the affected animals followed a certain pattern which depended upon the physico-chemical state of the isotope, the dose and the species of the animals. In the rabbits liver cirrhosis developed within 3-6 months after doses of 21, 14 and $7 \mu\text{Ci/kg}$ of Pu nitrate and within 9 months after a dose of $2 \mu\text{Ci/kg}$. In

Card 2/3

8/742/62/000/000/018/021
I015/I215

Morphologic changes in the liver...

the latter hepatomas and bile duct adenomas were present on the 9th month. In rats, on the other hand, a dose of $7\mu\text{G/kg}$ of Pu nitrate produced less marked changes resulting in only slight rearrangement in the liver morphology. The complex salt of Pu caused still less changes in rats than Pu nitrate. There are 4 figures and 5 tables.

Card 3/3

PROCESSING AND PROPERTY DATA																									
<p>Thermoelectrical method of determination of the depth of decarburized layer in steels. A. V. Nikitov. <i>Zavod. Khim. Mash. 8; 87-8 (1984)</i>.--The design can be understood from the drawings, and is based on the thermoelectricity generated by the contact of a tested object with the contact point of a heated Cu cylinder forming a thermocouple.</p> <p>Chas. Blanc</p>																									
<p>ASHTON METALLURGICAL LITERATURE CLASSIFICATION</p>																									

NIFONTOV, A. V.

42366 NIFONTOV, A. V. - Vluchsheniye merodov konxveliya detaley podshipnikov (4-y Gos
podshipnikovyy zavod). v sb.: Spyt novatorov mashin stroyeriya kuybyshev, 1948,
S. 118-25

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1946

1. NIFONTOV, A. V.
2. USSR (600)
4. Bearings (Machinery) - Testing
7. Certain forms of deposits of magnetic powder on bearing rings. Podshipnik no. 9, 1952
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

NIFONTOV, B. F.
NIFONTOV, B.F. (Moskva)

Pathogenesis and clinical aspects of traumatic shock. Fel'd. i
skush. 23 no.2:8-13 F '58. (MIRA 11:3)
(SHOCK)

PA 33/L9TF2

NIFONTOV, B. I.

USER/Mines

Mining Methods
Bauxite

Jul 48

"Rapid Cutting of Drifts at the North Ural
Bauxite Mines," B. I. Nifontov, N. P. Kostin,
i. A. Alekseyevskiy, Engineers, 5 pp

"Gor Zhur" No 7

Refers to success in decreasing time required
for rapid cutting of drifts. Rapid cutting of
39 drifts was carried out in 1943-1947 at subject
location. Describes cutting at various times,
disclosing technical operations, speed, etc.

33/49782

USER/Mines (Contd)

Jul 48

Gives three tables with data on cutting operations.

33/49782

NIFONTOV, B.I.; KULIKOV, A.V.

Uranium mining methods in France. Gor.zhur. no.2:29-32 F '61.
(MIRA 14:4)
(France--Uranium mines and mining)

NIFONTOV, Boris Ivanovich; YEROKHIN, G.M., red. izd-va; IL'INSKAYA,
G.M., tekhn. red.; SHKLYAR, S.Ya., tekhn. red.

[Rapid drifting] Skorostnoe provedenie gorizonta'nykh vyrabotok.
Moskva, Gosgortekhnizdat, 1962. 282 p. (MIRA 15:12)
(Mining engineering)

MIFONTOV, B.I., doktor tekhn.nauk; ROMADIN, N.M., gornyy inzh.;
SHISHCHITS, I.Yu., gornyy inzh.

Study of the relation between the net drilling rate and the
depth of boreholes. Gor. zhur. no. 12:52-53 D '61.

(MIRA 15:2)

(Boring)

E 3132-66 EWT(m)/EMA(h)

AM5020104

BOOK EXPLOITATION

26 UN/
8+1

Nifontov, B. I.; Protopopov, D. D.; Sitnikov, I. YE.; Kulikov, A. V.

Underground nuclear explosions: problems concerning industrial application of nuclear blasts (Podzemnyye yadernyye vzryvy; problemy promyshlennykh yadernykh vzryvov) Moscow, Atomizdat, 1965. 157 p. illus., biblio. 2600 copies printed.

TOPIC TAGS: underground explosion, atomic energy, nuclear blast effect, nuclear debris, industrial nuclear application, nonmilitary nuclear application

PURPOSE AND COVERAGE: This book is intended for a wide circle of engineering and technical workers. The authors compile and classify data on experimental underground nuclear explosions in the USA, in the period 1951-1962. Information on projects for the application of underground explosions for industrial purposes is also given. The authors express their gratitude to Corresponding Member of the Academy of Sciences USSR, M.A. Sadovskiy, for valuable advice given them at the time the book was written. The authors are grateful also to Z. I. Yefimova, who helped in the preparation of the manuscript.

Card 1/3

L 3132-66

AK5020104

TABLE OF CONTENTS: [Abridged]

Foreword -- 3

Introduction --5

Ch. I. Conditions of carrying on experimental underground nuclear explosions -- 8

Ch. II. Nuclear explosions in surface operations -- 19

Ch. III. Nuclear explosions in underground operations --32

Ch. IV. Seismic and air-shock effect of underground nuclear explosions -- 49

Ch. V. Radiation effect of underground nuclear explosions -- 72

Ch. VI. Use of nuclear explosions in the mining of deposits of solid minerals --86

Ch. VII. Use of nuclear explosions in large civilian construction projects -- 105

Card 2/3

L 3132-66

AM5020104

Ch. VIII. Use of nuclear explosions in crude-oil extraction -- 119

Ch. IX. Use of nuclear explosions for energy production -- 128

Ch. X. Use of nuclear explosions for scientific purposes -- 133

Ch. XI. Experimental explosions under program "Plowshare" -- 136

Bibliography -- 156

SUB CODE: NP

SUBMITTED: 11Mar65

NO REF SOV: 003

OTHER: 089

Cord 385

NIFONTOV, B.I.; PROTOPOPOV, D.D.; SITNIKOV, I.Ye.; KULIKOV, A.V.;
MEL'NIKOVA, A.I., red.

[Underground nuclear explosions; problems affecting industrial nuclear explosions] Podzemnye iadernye vzryvy; problemy promyshlennykh iadernykh vzryvov. Moskva, Atomizdat, 1965. 159 p. (MIRA 18:6)

ACC NR: AM6035814

(A)

Monograph

UR/

Nifontov, Boris Ivanovich; Kireyev, Vasily Vasil'yevich; Kisilevich, Yevgeniy Mefodiyevich; Vol'ftrub, Iosif Arturovich; Sadkovich, Yan Fedorovich; Golomolzin, Arkadiy Ivanovich; Petrenko, Andrey Afans'yevich

Construction of underground structures (Stroitel'stvo podzemnykh sooruzheniy)
Moscow. Izd-vo "Nedra", 1966. 293 p. illus., biblio. 2450 copies printed.

TOPIC TAGS: construction , mining engineering

PURPOSE AND COVERAGE: This book is intended for engineering and technical workers of construction, scientific-research, and design organizations studying the problems of building underground installations; it can also be used by workers of mine-construction organizations. In the book are discussed the basic problems of conducting mining operations during the construction of underground installations. There are 97 references, 72 of which are Soviet.

TABLE OF CONTENTS [abridged]

- Ch. I. Basic methods of conducting mining operations during construction of underground chambers -- 9
- Ch. II. Foreign experience in conducting mining operations during construction of underground chambers -- 22
- Ch. III. Drilling boreholes and blast holes -- 55

Card 1/2

UDC: 623.191.2+622 268.8

ACC NR: AM6035814

- Ch. IV. Blasting operations -- 83
- Ch. V. Mechanization of underground loading and transportation operations -- 118
- Ch. VI. Progressive methods of reinforcing mining excavations -- 145
- Ch. VII. Methods of excavating underground chambers in hard rocks -- 175
- Ch. VIII. Excavation methods providing for chamber-wall reinforcement during the excavation of a massif -- 178
- Ch. IX. Excavation methods by which chamber walls remain open during excavation -- 224
- Ch. X. Examples of calculations relative to work organization and the selection of equipment -- 233
- Ch. XI. Ventilation and dust suppression during the excavation of underground chambers -- 249
- Ch. XII. Several problems of underground installation stability -- 280

SUB CODE: 08, 13/

SUBM DATE: 03 May 66/

ORIG REF: 076/

OTH REF: 029/

Card 2/2

ACC NR: AT7004465

SOURCE CODE: UR/2834/66/051/001/0078/0084

AUTHORS: Borisov, A. A.; Nifontov, B. I.; Romadin, N. M.

ORG: none

TITLE: Computing the stresses in pillars between rooms in mines

SOURCE: Leningrad. Gornyy institut. Zapiski, v. 51, no. 1, 1966, 78-84

TOPIC TAGS: mining engineering, stress distribution, underground facility

ABSTRACT: Present methods of computing characteristics and requirements of pillars between rooms in mines and other underground workings involve two-dimensional solutions, not three-dimensional, as the latter introduce distortions and can be used only in restricted circumstances. None of the two-dimensional solutions can determine either the value or the nature of stress distribution in pillars. Actual solutions of the three-dimensional problem have been approached only in recent years. The authors review the basic contributions of A. S. Kalmanok, Ye. S. Kononenko, and M. M. Filonenko-Borodich, and, starting from these, they assign first-approximation values to the stress tensors along the three principal coordinate axes. These expressions involve normal and tangential stresses, relations of height, width, and breadth (of the pillar), modulus of elasticity, Poisson's ratio, and compression of the pillar. From these expressions equations are derived, the solutions of which provide a general solution

Card 1/2

UDC: 622.838.53

ACC NR: AT7004465

to the problem, permitting examination of the stress state in pillars having any relations of height, width, and breadth. The results are very satisfactory, comparing well with experimental data and actually observed conditions. Three-dimensional models of optically active material are not adequate to show distribution of stresses along the pillar. Orig. art. has: 5 figures, 1 table, and 6 formulas.

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 004

Card 2/2

NIFONTOV, B.N., inzh.

Dump truck with removable body. Transp. stroi. 15 no.6:55

Je '65.

(MIRA 18:12)

NIFONTOV, B. V. Cand. Med. Sci.

Dissertation: "The Peculiarities of the Pathogenesis, Clinical Treatment and Therapy of Patients Suffering from Traumatic Injuries due to Explosions." Moscow Medical Inst., Ministry of Health RSFSR, 30 Jun 47.

SO: Vechernyaya Moskva, Jun, 1947 (Project #17836)

NIFONTOV, B. V., Doc Med Sci -- (diss) "Traumatic Shock in
Peacetime (Experimental and Clinical Study)." Mos, Medgiz,
1957. 56 pp with ill. (Second Mos State Medical Inst im N. I.
Pirogov), 200 copies (KL, 49-57, 115)

- 59 -

NIFONTOV, BORIS VLADIMIROVICH

N/S
61.18
.NK

Vozdushnaya Vzryvnaya Travma (Blast Injuries) Moskva, Mediz,
1957.
159 p. Illus., Tables.
"Literatura": p. 151-156.

Nifontov, B.V.
NIFONTOV, B.V. (Moskva)

Shock caused by peace-time injuries; treatment and prevention.
Fel'd. 1 akush. 22 no.12:3-7 D '57. (MIRA 11:2)
(SHOCK)

NIFONTOV, B.V. (Moskva) doktor meditsinskikh nauk zasluzhennyy vrach
RSFSR

Problems in the clinical treatment of traumatic shock. Khirurgiia
35 no. 5:24-31 My '59. (MIRA 13:10)
(SHOCK)

NIKONTOV, B.V., kand.med.nauk, zaslužhenny vrach RSFSR (Moskva)

Prophylactic principle and therapy of traumatic shock in peacetime [with summary in English]. Klin.med. 37 no.1:44-54 Ja '59.
(MIRA 12:3)

(SHOCK

traum., prev. & ther. (Rus))

(WOUNDS AND INJURIES, compl.

shock, prev. & ther. (Rus))